

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference  RLL-347WO	<b>FOR FURTHER ACTION</b>  see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No.  PCT/IB2004/000850	International filing date (day/month/year)  22/03/2004	(Earliest) Priority Date (day/month/year)  21/03/2003
Applicant  RANBAXY LABORATORIES LIMITED		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box II).

3. ☐ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

PROCESS FOR THE PREPARATION OF 7-(P-HYDROXYPHENYLGLYCLYAMIDO) CEPHEM COMPOUNDS

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regards to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. \_\_\_\_\_

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

# INTERNATIONAL SEARCH REPORT

National Application No

PCT/IB2004/000850

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07D501/04 C07D501/22 A61K31/545 A61P31/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07D A61K A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BEILSTEIN Data, WPI Data, PAJ, CHEM ABS Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 899 394 A (WILLNER DAVID ET AL) 12 August 1975 (1975-08-12) Abstract; examples 1-3; claims.	22-28
X	US 3 940 354 A (HEYMES RENE ET AL) 24 February 1976 (1976-02-24) Abstract; example 2, in particular steps J and K; claim 4.	22,24-28
X	US 3 988 450 A (JAMES BRIAN GEORGE) 26 October 1976 (1976-10-26) Abstract; example 3 resulting in compound XVII according to column 14; claims.	22,24-28
X	US 4 139 702 A (BROGGI RENATO ET AL) 13 February 1979 (1979-02-13) Abstract; example 9; claims 1 and 4.	22-28
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*G\* document member of the same patent family

Date of the actual completion of the international search

20 September 2004

Date of mailing of the international search report

06/10/2004

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## INTERNATIONAL SEARCH REPORT

International Application No.  
PCT/IB2004/000850

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 148 817 A (WRIGHT IAN G) 10 April 1979 (1979-04-10) Abstract; column 6, lines 63-64; examples 1-3; claims. -----	22-28
X	KLEEMANN, A.; ENGEL, J.: "Pharmaceutical Substances; Synthesis, Patents, Application; A-M; 4th ed." 2001, THIEME, STUTTGART, NEW YORK, XP002296968 Pages 368-371 (Cefadroxil, Cefalexin), 376-377 (Cefatrizine), and 396-398 (cis-Cefprozil). -----	22-28
Y	KEMPERMANN, G. J. ET AL.: "Synthesis of Cephalosporin-Type Antibiotics by Coupling of Their beta-Lactam Nucleus and Racemic Amino Acid Side Chains Using a Clathration-Induced Asymmetric Transformation" EUR. J. ORG. CHEM., 2001, pages 1817-1820, XP009036646 -----	1-21
X	Page 1818, schemes 1 and 2; page 1820, "Synthesis of Cefadroxil". -----	22-28
X	JP 57 185291 A (TOUSHIN SEIYAKU KK) 15 November 1982 (1982-11-15) the whole document -----	1-28
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E	WO 2004/035593 A (DAS GAUTAM KUMAR ; DESHPANDE PRAMOD NARAYAN (IN); ORCHID CHEMICALS & P) 29 April 2004 (2004-04-29) Abstract; page 4, scheme 1; page 5, example 1; claims. -----	1-28
E	WO 2004/039812 A (DESHPANDE PANDURANG BALWANT ; KONDA RAMESH ATHMARAM (IN); GURUSAMY KUM) 13 May 2004 (2004-05-13) Abstract; page 5, scheme 2: reaction sequence V, XII, XIII, I; pages 9-10, example 1, step vi; claims. -----	1-28
Y	CASTELLVI, J. C. ET AL.: "Highly catalytic species in the formation of symmetrical anhydrides and mixt anhydrides" AFINIDAD, vol. 43, 1986, pages 421-424, XP009036673 the whole document -----	1-21

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Information on patent family members

International Application No

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Information on patent family members

International Application No

PCT/IB2004/000850

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